Secure Wireless (WPA) Network Connectivity Instructions

TEACHERS COLLEGE
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1 Overview

A WPA secured wireless network solution has been designed and installed for Bancroft Hall. The purpose of this document is to provide the instructions, per operating system, for connecting to the WPA wireless network.

The wireless network installed in the Teachers College residence halls uses Cisco infrastructure, and supports the 802.11g wireless protocol. The following characteristics of this wireless network should be taken into consideration:

- Authentication is required when connecting to this network. Admission control is accomplished by a passphrase (provided in this document), as well as access point proximity, which is confined to the Family Housing buildings of Teachers College.
- WPA encryption is used on the wireless network. However, Teachers College takes no responsibility for the protection of data during transmission. Care should be taken by the user, as in all Internet access, to ensure that sensitive communications are protected by appropriate encryption technology.
- Minimal restrictions are implemented that limit outbound connectivity to the public Internet from the wireless network; as such, no inherent protection is in place for viruses, worms, malware, etc. Users of the network should ensure that adequate client-side protection, such as antivirus and personal firewall software, is configured on any machine used.
- No inbound Internet access to stations connected to the wireless network is permitted.

The following Operating Systems are supported for connection to the wireless network:

- Microsoft Windows XP
- *Microsoft Windows 2000
- MAC OS X

All additional operating systems configured with appropriate hardware and drivers that support connectivity to 802.11g wireless networks protected with WPA should work as well, however, instructions for connectivity to the Teachers College wireless network are not provided in this document.

*Note that for Microsoft Windows 2000 WPA to work, you must have a G wireless card that comes with wireless connection software that supports WPA. Windows 2000 will not natively support WPA. This document does not include instructions for individual wireless card software. Please review the card vendors’ instructions for WPA configuration. However, as an example, there is an appendix included with screenshots for Cisco wireless client software configuration of WPA. This is provided as an example only, as other wireless card vendors’ connection software may be similar.
2 General Instructions (All Users Must Read This Section)

The following are the relevant parameters for connection to the Teachers College Residence Wireless Network:

SSID Name: TCFamWiFi
Authentication: None
Encryption: WPA
WPA Passphrase (ASCII): Contact academic computing x 3304 or Telecom x3456
Address Configuration: DHCP

The following are important considerations when connecting to the TC Residence Wireless Network:

- Note that the SSID and the WPA passphrase are case sensitive.
- This section does not include the specifics regarding installation of a wireless networking card and associated drivers for your computer. Please refer to the manufacturer documentation for the installation instructions as required.
- Some wireless network cards include custom configuration utilities for connection to wireless networks. The instructions contained in this section deal only with the wireless configuration utilities built into the Operating System. Refer to the vendors’ websites for instructions on using their supplied connection utilities.

If you are having problems connecting…

- Make sure you have the latest drivers from your wireless card manufacturer. Most vendors have downloadable driver updates from their website, along with detailed instructions for their installation. We recommend that you upgrade to the latest driver version available for your wireless card if your card is older than one year or if you are having problems connecting (see Appendix II for a list of common wireless card vendor websites).
- Check with your wireless card manufacturer to confirm WPA compatibility.
- Check the wireless card properties on your system to confirm WPA compatibility.
- Check the WiFi Alliance website to see if your wireless card is listed as WPA compliant (http://certifications.wi-fi.org/wbcs_certified_products.php?lang=en)
- If you believe your card does not support WPA, contact the Family Housing Computer Consultant, Genzeb Jan at x3581 or at resnet@tc.edu, to trade in your wireless card. Note that you must explain your confirmation of WPA incompatibility when contacting Genzeb Jan.
- Some older versions of Windows XP (with or without service pack 2) may be missing the necessary software to connect to a WPA wireless network. An error message may come saying that the system is unable to connect to the specified network. If this occurs, you will need to obtain a copy of the Microsoft Windows XP wireless security update on CD from the Family Housing Computer Consultant, Genzeb Jan, at x3581 or at resnet@tc.edu. Also, the necessary patch can be downloaded from: http://support.microsoft.com/kb/815485/
3 Instructions by Operating System

3.1 Windows XP

Configure Network Software to Use Wireless Card

1. Using the “Start” Menu, go to “Settings”, “Control Panel”. Open the “Network Connections” item (under “Network and Internet Connections” in category view).
2. Right-click on the icon for the wireless card/connection (for example, "TrueMobile Wireless LAN") and select "Properties".
3. The Wireless Network Connection Properties window will come up. Select “Internet Protocol (TCP/IP)”, and click on “Properties”.

![Wireless LAN Properties window with Internet Protocol (TCP/IP) selected]
4. Select “Obtain and IP Address Automatically”. Click “OK” to close the properties window.
Configure Wireless Card to Connect to the Teachers College Wireless Network

1. Right-click on the icon for the wireless card/connection (for example, “TrueMobile Wireless LAN”) and select “Properties”. The Wireless Network Connection Properties window will come up.
2. Click on the “Wireless Network Connection Properties” window, click on the “Wireless Networks” tab. Depending on whether you have Windows XP Service Pack 2 installed or not, you will either see a list of available networks OR a button that says “View Wireless Network” (the latter shown below). Click this button if you have it and skip to step 4 below. If you don’t have the button, follow the next step “3” directly below.
3. If you are in range of the Teachers College wireless network (in one of the Family Housing Buildings), you should see the "TCFamWiFi" wireless network listed in the "Available Networks" section.

You should see something like this:
Highlight the “TCFamWiFi” network and click on “Configure”. Confirm the following settings:

- Network Key should be: tc24416211

Also, please note that:
- if you see the “TCFamWiFi” network listed in the “Preferred networks” box on the bottom half of this screen, then you should highlight it and click “Properties” to confirm the above noted settings are corrected set;

- if you do NOT see WPA-PSK as an option under Data encryption (and only see WEP), you will need to obtain the Microsoft Windows XP wireless security update referenced at the beginning of this document (on CD from the Family Housing Computer Consultant, Genzeb Jan at x3581 or at resnet@tc.edu, or directly from Microsoft at [http://support.microsoft.com/kb/815485/](http://support.microsoft.com/kb/815485)).

Click “Connect” or “OK” to exit this configuration. Then click on “OK” to close the “Properties” dialogue box. Close out of “Control Panel”.

You should be able to successfully access the Internet at this point. If you have issues, please contact the Family Housing Computer Consultant for further assistance.
4. (you should be here ONLY if you skipped step 3). You should have clicked the “View Wireless Networks” button; you will see the screen below. If there’s more than one network listed, make sure that you choose “TCFamWiFi” and hit the connect button.

Once you try to connect, you should be prompted to enter a password to gain access. You should enter the following WPA key:

tc24416211
At this point, you should be able to successfully access the Internet at this point. If you have issues, please contact your Family Housing Computer Consultant (Genzeb Jan at x3581 or at resnet@tc.edu) for further assistance.

Also, note that if you get an error trying to connect to the specified network, you may need to obtain the Microsoft Windows XP wireless security update referenced at the beginning of this document (on CD from TC Telecom, Family Housing Computer Consultant, or directly from Microsoft at http://support.microsoft.com/kb/815485/).
3.2 MAC OS X 10.3.x

Configure Network Software to Use Wireless Card

1. Using the “Apple Menu”, select “System Preferences”.

![Apple Menu showing System Preferences]

[Caption: Apple Menu showing System Preferences]
2. Under “Internet and Network”, open the “Network” item.
3. Network Location should be set to "Automatic". Select your wireless network card in the drop-down menu (for example, "AirPort"). The settings for the wireless network card will be displayed. Select "Configure", in the drop-down menu, select "Using DHCP". Click “Apply Now” to save the settings.
Configure Wireless Card to Connect to the Teachers College Wireless Network

1. If AirPort status is already shown in menu, click on AirPort menu icon and select TCFamWiFi and go to step 3. If not, go to step 2.
2. Go to your AirPort configuration and switch the network to TCFamWiFi.
Enter the password and make sure wireless security is set to WPA Personal.

Enter the information below.

Status: Connected to “PubWiFi”
Internet Connect-showing successful connection

You should be able to successfully access the Internet at this point. If you have issues, please contact your Family Housing Computer Consultant (Genzeb Jan at x3581 or at resnet@tc.edu) for further assistance.
3.3 MAC OS X 10.4.x

1. From the menu bar on top, select the Airport icon and choose “TCFamWiFi” if available (see below). If you don’t have the AirPort Status menu bar icon, go to the next step, otherwise skip to step 6.
2. Open the Systems Preferences (Located in your Applications directory):
3. Double-click on Network to get this window:
4. Click on the Configure button (or Double-click on AirPort line) to get to this screen:

![Network Configuration Screen]

5. Select “Show AirPort status in menu bar and click on the “Apply Now” button. Quit Systems preferences.
6. Go to AirPort status icon in menu bar:
7. Selecting TCFamWiFi, if you are not already connected will open this window:

Select “Show password” so that you can see what you type and select “Remember password in my keychain” so that you don’t have to do this every time you connect (so long as you don’t delete or reset the keychain).

Click on “OK”.

![Airport Network Connection Window](image)
If you have successfully connected, you will not get an error message, and you will see a certain number of bars in the AirPort status icon in the menu bar:

![Airport status icon](image1)

If you receive this error:

![Error message](image2)

Select OK and go back to step 6.

Select "Try again" only if you are certain that you typed in the password correctly and the connection failed due to being out of range in the prior attempt or interference that has been resolved.

You should be able to successfully access the Internet at this point. If you have issues, please contact your Family Housing Computer Consultant (Genzeb Jan at x3581 or at resnet@tc.edu) for further assistance.
4 Appendix I – Cisco Wireless Card Software Configuration Example

Note that the screenshots below are only mention to provide a reference for configuration of specific vendors’ wireless card connection software to the Family Housing WPA wireless network.
The above passphrase should be: tc24416211

Profile Name: TCFamWiFi
Link Status: Authenticated
Wireless Mode: 2.4 GHz 54 Mbps
Server Based Authentication: None
IP Address: 160.39.71.15
Signal Strength: Excellent
5 Appendix II – List of Common Wireless Card Vendor Websites

- Linksys
  http://www.linksys.com/download/

- D-Link
  http://support.dlink.com/downloads/

- Netgear
  http://kbserver.netgear.com/downloads_support.asp

- SMC
  http://www.smc.com/index.cfm?event=downloads.searchCriteria&localeCode=EN_USA

- Intel